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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,847

12/13/2006

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EXAMINER

SOWARD, IDA M

ART UNIT

PAPER NUMBER

2822

NOTIFICATION DATE

DELIVERY MODE

03/10/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,847	<b>Applicant(s)</b> TSUJI ET AL.	
	<b>Examiner</b> Ida M. Soward	<b>Art Unit</b> 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6-8 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 5, 9-14 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This Office Action is in response to the Applicants' amendment filed December 2, 2008.

### ***Drawings***

The objection to Figure 12 has been withdrawn due to the amendment filed.

### ***Claim Objections***

The objection to claims 9-10 has been withdrawn due to the amendment filed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 6-8 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binet et al. (US 2004/0129086 A1) in view of Mikkor (4,625,561).

In regard to claim 4, Binet et al. teach a sensor device comprising: a sensor body 23; an upper sealing member 27 made of the same material as that of said sensor body 23; a lower sealing member 26 made of the same material as that of said sensor body 23, said lower sealing member 26 being joined to said upper sealing member 27

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so as to house said sensor body 23 therewithin in cooperation with said upper sealing member 27 (Abstract, Figure 2D, pages 1 and 3, paragraphs [0017] and [0049]-[0062]).

In regard to claim 2, Binet et al. teach the material of said sensor body 23, the material of said upper sealing member 27 and said lower sealing member 26 being a semiconductor (Abstract, Figure 2D, pages 1 and 3, paragraphs [0017] and [0049]-[0062]).

In regard to claim 3, Binet et al. teach said upper sealing member 27 and said lower sealing member 26 housing said sensor body 23 in an airtight manner (Abstract, Figure 2D, pages 1 and 3, paragraphs [0017] and [0049]-[0062]).

In regard to claim 6, Binet et al. teach a sensor device comprising: a sensor body 23; an upper sealing member 27 made of the same material as that of said sensor body 23; a lower sealing member 26 made of the same material as that of said sensor body 23, said lower sealing member 26 being joined to said upper sealing member 27 so as to house said sensor body 23 therewithin in cooperation with said upper sealing member 27 (Abstract, Figure 2D, pages 1 and 3, paragraphs [0017] and [0049]-[0062]).

However, Binet et al. fail to teach a mounting electrode disposed on an outer surface of at least one sealing member selected from said upper sealing member and said lower sealing member; and a conductive through-path penetrating through said at least one sealing member to electrically connect between said mounting electrode and said sensor body or a first wiring pattern extending along a junction surface of said at least one sealing member relative to the opposed sealing member to electrically connect between said mounting electrode and said sensor body.

Mikkor teaches a mounting electrode (above 19 in Figure 4B) disposed on an outer surface of at least one sealing member 11/15 selected from said upper sealing member 11 and said lower sealing member 15; and a conductive through-path 19 penetrating through said at least one sealing member 11 to electrically connect between said mounting electrode (above 19 in Figure 4B) and said sensor body 13/16 or a first wiring pattern 19 extending along a junction surface of said at least one sealing member 11 relative to the opposed sealing member 15 to electrically connect between said mounting electrode (above 19 in Figure 4B) and said sensor body 13/16 (Figures 3 and 4B, columns 3-5, lines 37-68, 1-68 and 1-66, respectively).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor device structure as taught by Binet et al. with the sensor device having a mounting electrode disposed on an outer surface of at least one sealing member selected from said upper sealing member and said lower sealing member; and a conductive through-path penetrating through said at least one sealing member to electrically connect between said mounting electrode and said sensor body or a first wiring pattern extending along a junction surface of said at least one sealing member relative to the opposed sealing member to electrically connect between said mounting electrode and said sensor body as taught by Mikkor to provide a high conductivity path (abstract).

In regard to claim 7, Mikkor teaches either one or each of said upper sealing member 27 and said lower sealing member 26 being an integrated circuit board 11

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formed with a circuit 32 for driving said sensor body 13/16 (Figures 3 and 4B, columns 3-5, lines 37-68, 1-68 and 1-66, respectively).

In regard to claim 8, Mikkor teaches an integrated circuit 32 for driving said sensor device 13/16 (Figures 3 and 4B, columns 3-5, lines 37-68, 1-68 and 1-66, respectively).

In regard to claim 15, Mikkor teaches forming a through-hole in said at least one sealing member 11; and embedding a conductive material 19 in said through-hole to form said conductive through-path (Figure 3, columns 3-5, lines 37-68, 1-36 and 33-66, respectively).

In regard to claim 16, Mikkor teaches embedding including: depositing said conductive material 19 on a surface of said through-hole; and depositing said conductive material to allow said through-hole to be entirely filled therewith (Figure 3, columns 3-5, lines 37-68, 1-36 and 33-66, respectively).

In regard to claim 17, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

***Allowable Subject Matter***

Claims 5, 9-14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments with respect to claims 2-18 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to sensor devices:

Binet et al. (US 6,966,228 B2)

Chen et al. (US 6,649,991 B1)

Chen et al. (US 6,686,667 B2)

Little et al. (5,703,296)

Mahadevan et al. (5,686,698).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:00am to 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra V. Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IMS

February 26, 2009

/Ida M Soward/

Primary Examiner, Art Unit 2822